

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference BALL 1-2-3	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US98/21872	International filing date (day/month/year) 15 OCTOBER 1998	Priority date (day/month/year) 31 OCTOBER 1997
International Patent Classification (IPC) or national classification and IPC IPC(6): C03B 37/05, 37/03 and US Cl.: 65/374.13, 374,15, 435, 537		
Applicant CORNING INCORPORATED		

- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 3 sheets.  
☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority. (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).  
These annexes consist of a total of 0 sheets.

- This report contains indications relating to the following items:
  - ☒ Basis of the report
  - ☐ Priority
  - ☐ Non-establishment of report with regard to novelty, inventive step or industrial applicability
  - ☐ Lack of unity of invention
  - ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
  - ☐ Certain documents cited
  - ☐ Certain defects in the international application
  - ☐ Certain observations on the international application

Date of submission of the demand 08 MARCH 1999	Date of completion of this report 21 JULY 1999
Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	Authorized officer JOHN HOFFMANN
Facsimile No. (703) 305-3230	Telephone No. (703) 308-0469

**I. Basis of the report**

1. This report has been drawn on the basis of *(Substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments):*

☒ the international application as originally filed.

☒ the description, pages 1-8 , as originally filed.

pages NONE , filed with the demand.

pages NONE , filed with the letter of \_\_\_\_\_.

pages \_\_\_\_\_ , filed with the letter of \_\_\_\_\_.

☒ the claims, Nos. 1-11 , as originally filed.

Nos. NONE , as amended under Article 19.

Nos. NONE , filed with the demand.

Nos. NONE , filed with the letter of \_\_\_\_\_.

Nos. \_\_\_\_\_ , filed with the letter of \_\_\_\_\_.

☒ the drawings, sheets/fig 1 , as originally filed.

sheets/fig NONE , filed with the demand.

sheets/fig NONE , filed with the letter of \_\_\_\_\_.

sheets/fig \_\_\_\_\_ , filed with the letter of \_\_\_\_\_.

2. The amendments have resulted in the cancellation of:

☒ the description, pages NONE .

☒ the claims, Nos. NONE .

☒ the drawings, sheets/fig NONE .

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the ~~Supplemental Box~~ Additional observations below (Rule 70.2(c)).

4. Additional observations, if necessary:

NONE

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US98/21872

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. STATEMENT**

Novelty (N)	Claims <u>1-11</u>	YES
	Claims <u>NONE</u>	NO
Inventive Step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-11</u>	NO
Industrial Applicability (IA)	Claims <u>1-11</u>	YES
	Claims <u>NONE</u>	NO

**2. CITATIONS AND EXPLANATIONS**

Claims 1-11 lack an inventive step under PCT Article 33(3) as being obvious over Ishikawa.

Col. 1, lines 36-41 teaches a carbon muffle tube coated with silicon carbide. It would have been obvious that the carbon-phase be graphite, because graphite is a common and inexpensive phase of carbon. It is deemed that the temperature is sufficient for drawing a glass fiber - perhaps a halide fiber or a non-oxide chalcogenide fiber.

As to claim 2, the top half (top section) would be tubular as would the bottom half. Anything can be subdivided into two halves.

As to claim 3, one can also arbitrarily designate the tube to have top, middle and bottom sections.

As to claim 4, it would have been obvious to make the layer as thin or as thick as desired.

As to claim 5, it would have been obvious to make the carbide as pure as possible, so that it doesn't contaminate the fibers.

As to claim 6, Ishikawa uses the furnace for treating preforms, but not for drawing fibers. Since the Ishikawa furnace is good at controlling contamination in high temperature processes optical glass processes, it would have been obvious to use such in any high temperature glass process, including drawing of fibers.

As to claims 7-8, such would have been an obvious matter of routine experimentation to determine the optimal temperature - depending upon the type of fiber being made.

As to claim 9, see how claim 5 is treated, above.

As to claims 10-11, it would have been obvious to make any and all losses as small as possible.

----- NEW CITATIONS -----  
NONE

## PATENT COOPERATION TREATY

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

United States Patent and Trademark  
Office  
(Box PCT)  
Crystal Plaza 2  
Washington, DC 20231  
ÉTATS-UNIS D'AMÉRIQUE

in its capacity as elected Office

Date of mailing: 14 May 1999 (14.05.99)	
International application No.: PCT/US98/21872	Applicant's or agent's file reference: Ball 1-2-3
International filing date: 15 October 1998 (15.10.98)	Priority date: 31 October 1997 (31.10.97)
Applicant: BALL, Steven, C. et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International preliminary Examining Authority on:  
08 March 1999 (08.03.99)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was  
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO  
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Recherchen-  
abteilung

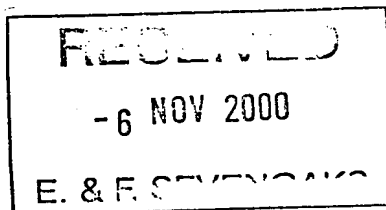
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Datum/Date

07.11.00

Zeichen/Ref./Réf. <b>JIM/LJ/G14836EP</b>	Anmeldung Nr./Application No./Demande n°/Patent Nr./Patent No./Brevet n°. <b>98954984.5-1218-US9821872</b>
Anmelder/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire <b>CORNING INCORPORATED</b>	

## COMMUNICATION

The European Patent Office herewith transmits as an enclosure the European search report for the above-mentioned European patent application.

If applicable, copies of the documents cited in the European search report are attached.

☒ Additional set(s) of copies of the documents cited in the European search report is (are) enclosed as well.

SPEPSR.

## REFUND OF THE SEARCH FEE

If applicable under Article 10 Rules relating to fees, a separate communication from the Receiving Section on the refund of the search fee will be sent later.





DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	US 5 513 983 A (M. ITO ET AL.) 7 May 1996 (1996-05-07) * column 8, line 31 - line 35; claims 1,14; figure 2 *	1-5	C03B37/029 H05B6/02
X	EP 0 420 148 A (SUMITOMO ELECTRIC IND., LTD.) 3 April 1991 (1991-04-03) * page 5, line 35 - line 41; claims 1-3 *	1-5	
Y	GB 1 575 299 A (SUMITOMO ELECTRIC IND., LTD.) 17 September 1980 (1980-09-17) * claims 1,3,6; figures 3,5-7 *	1-11	
Y	PATENT ABSTRACTS OF JAPAN vol. 12, no. 59, 23 February 1988 (1988-02-23) -& JP 62 202836 A (SUMITOMO ELECTRIC IND., LTD.), 7 September 1987 (1987-09-07) * abstract * * page 224; table 1 *	1,4-11	
Y	GB 2 192 698 A (STC PLC) 20 January 1988 (1988-01-20) * abstract; figure 1 *	2,3	TECHNICAL FIELDS SEARCHED (Int.Cl.6) C03B H05B
Y	FR 2 340 519 A (A. GOURONNEC ET AL.) 2 September 1977 (1977-09-02) * claims 1,2,5,7 *	1-11	
A	PATENT ABSTRACTS OF JAPAN vol. 7, no. 281, 15 December 1983 (1983-12-15) & JP 58 161939 A (NT&T CORP.), 26 September 1983 (1983-09-26) * abstract *	1,6	
-/--			
The supplementary search report has been based on the last set of claims valid and available at the start of the search.			
Place of search THE HAGUE		Date of completion of the search 30 October 2000	Examiner Stroud, J
<b>CATEGORY OF CITED DOCUMENTS</b> X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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EPO FORM 1503 03.82 (P04C04)



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
Y	US 5 306 322 A (S.ISHIKAWA ET AL.) 26 April 1994 (1994-04-26)	4,5	
A	* column 7, line 21 - line 42; examples 7,8,10 *	1	
A	US 5 032 079 A (I.TSUCHIYA ET AL.) 16 July 1991 (1991-07-16) * abstract; figures 1,4,8,9 *	2,3	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
The supplementary search report has been based on the last set of claims valid and available at the start of the search.			
Place of search THE HAGUE		Date of completion of the search 30 October 2000	Examiner Stroud, J
<div>CATEGORY OF CITED DOCUMENTS</div> <div>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</div> <div>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons &amp; : member of the same patent family, corresponding document</div>			

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EPO FORM 1503 03.82 (P04C04)

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 98 95 4984

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
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30-10-2000

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EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82



**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 98 95 4984

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